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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,441	02/14/2001	Marl Philip D'Evelyn	RD-26,782/USA	3415

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GENERAL ELECTRIC COMPANY  
GLOBAL RESEARCH CENTER  
PATENT DOCKET RM. 4A59  
PO BOX 8, BLDG. K-1 ROSS  
NISKAYUNA, NY 12309

EXAMINER

HENDRICKSON, STUART L

ART UNIT PAPER NUMBER

1754

DATE MAILED: 12/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS 6

# Office Action Summary

Application No. 783441	Applicant(s) Dewberry	
Examiner W. Jackson	Group Art Unit 1154	

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☒ Responsive to communication(s) filed on 12/21/02 (The delay is regretted)
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1, 3-9, 13, 16-18, 20, 21, 23-42 is/are pending in the application.
- Of the above claim(s) 23, 24 is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1, 3, 4, 9-13, 16-18, 20, 21, 25-30, 33-42 is/are rejected.
- ☒ Claim(s) 5, 6, 31, 32 is/are objected to.
- ☒ Claim(s) 13, 14, 15, 16, 18, 20, 21, 23-42 are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some\* ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

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The traverse is noted, however is maintained since there is a substantial search burden.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 9, 13, 17, 18, 25 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Oomen.

Oomen teaches in columns 1-2, and refers to an article, a tool containing single crystal diamond with B implanted at the surface. The implantation is taught to increase the lattice size. Even though the diamond is not described in the claimed manner, no differences are seen.

Claims 8, 16, 18, 26-30, 34-39, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oomen.

The reference does not teach the size or number of diamonds, or the amount of dopant, however size and number do not generally confer patentability; In re Rose 105 USPQ 137. Using the claimed number of diamonds and B concentration in the tool (if different) is an obvious expedient to achieve the desired amount of cutting surfaces or lattice expansion.

Claims 1, 3, 4, 7-9, 13, 16-18, 20, 21, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno et al., taken with Marchywka et al.

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Mizuno teaches a 3 dimensional faceted diamond with Ar+ implanted, although any element can be implanted (col. 2 line 47). The ions do not penetrate to the center, as implied by figs. 2, 6, 7. This differs in not teaching the claimed ions. Marchywka teaches in column 2 ion-implanting diamonds, and teaches the claimed B,N ions as equivalents to Ar. Also, it is taught that the ions are implanted near the surface and thus non-uniformly in the diamond, and thus there is a gradient and a minimum concentration at the center. Using an ion of Marchywka in the process of Mizuno is an obvious expedient to create a doped diamond with the particular properties desired. Since the combined process is the same, so too is the result. The amount of doping, if not the same, is an obvious expedient to gain the desired resistance. Mizuno fig. 2 implies the surface doping of claim 9. A small diamond of claim 16 is an obvious expedient to provide a sensitive tip without a large mass of diamond (Mizuno col. 4 line 25). Mizuno appear to make the structure of claim 20, the electrode being the outer layer.

The examiner takes Official Notice that ions claimed but not explicitly listed by the references are old and known to be implanted into diamond.

Claims 26-30, 33-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno et al., taken with Marchywka et al. as applied to claim 1, 3, 4, 7-9, 13, 16-18, 20, 21, 25 above, and further in view of Oomen.

The above references do not teach a tool, however Oomen does in column 1. Using more than one diamond is an obvious expedient to gain additional cutting function; In re Rose supra.

Claims 17 and 18 are incomplete.

Any inquiry concerning this communication should be directed to examiner Hendrickson at telephone number (571) 272-1351.



Stuart Hendrickson  
examiner Art Unit 1754